

WHAT IS CLAIMED IS:

1           1.     A hand-held telephone device used in a first use state in which the  
2 telephone device is stick to a face of a speaking person and a second use state in  
3 which the telephone device is left away from the face, comprising a sensor which  
4 detects the distance from the face;

5                 wherein the above microphone is an optical microphone that comprises  
6 a diaphragm to vibrate by the sound pressure;

7                 an illuminant to irradiate an optical beam to the above  
8 diaphragm;

9                 a photodetector which receives a reflection light of the light  
10 beam irradiated in the diaphragm and which outputs a signal which copes with the  
11 oscillation of the diaphragm;

12                an illuminant drive circuit to drive the illuminant to supply  
13 predetermined electric current; and

14                a negative feedback circuit that supplies the signal outputted by  
15 the optical detector to the illuminant drive circuit as a negative feedback signal; and

16                wherein the directional characteristics of the above optical microphone  
17 are controlled by varying the negative feedback signal according to the sensor signal  
18 that shows the distance between the face and the microphone.

1           2.     A hand-held telephone device used in a first use state in which the  
2 telephone device is stick to a face of a speaking person and a second use state in  
3 which the telephone device is left away from the face, comprising a proximity sensor  
4 which outputs a detection signal to turn off during the first use state and a detection  
5 signal to turn on during the second use state;

6                 wherein the above microphone is an optical microphone that comprises

7                 a diaphragm to vibrate by the sound pressure;

8 an illuminant to irradiate an optical beam to the above  
9 diaphragm;  
10 a photodetector which receives a reflection light of the light  
11 beam irradiated in the diaphragm and which outputs a signal which copes with the  
12 oscillation of the diaphragm;  
13 an illuminant drive circuit to drive the illuminant to supply  
14 predetermined electric current; and  
15 a negative feedback circuit that supplies the signal outputted by  
16 the optical detector to the illuminant drive circuit as a negative feedback signal; and  
17 wherein the directional characteristics of the above optical microphone  
18 are controlled by toggling the negative feedback signal in two steps according to the  
19 detection signal.